

Notice of Allowability	Application No.	Applicant(s)	
	10/804,890	LI ET AL.	
	Examiner	Art Unit	
	Bernard E. Souw	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 04/07/2005.
2. ☒ The allowed claim(s) is/are 1,3-6,11,13,14 and 16-20.
3. ☒ The drawings filed on 04/07/2005 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
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DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this Examiner's Amendment has been given during a phone conversation with applicant's attorney, Mr. Randy W. Tung, Reg. No. 31,311, on June 09, 2005.

(a) **In the claims (as amended on 04/07/2005):**

- ▶ Cancel claims 9, 12 and 15.
- ▶ In claim 1, last line, after "*monitored V_E* ", delete *[.]* and insert *-- ; --*, then add the following paragraphs:

-- means for calculating an estimated radius R_e of ions being implanted by the ion implanter; --

-- means for determining an offset value between R_{am} and R_e ; --

-- and means for signaling an alarm if the absolute value of the offset, $|R_{am} - R_e|$, is larger than a predetermined radius tolerance level L . --.

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- ▶ In claim 4, lines 1-4, after “*of claim 1*”, prior to “, wherein the means”, delete ***[further comprising: means for calculating an estimated real-time radius R_e of ions being implanted by the ion implanter].***
- ▶ In claim 6, lines 13-14, after “*and a*”, prior to “*estimated*”, delete ***[real-time]***.
- ▶ In claim 6, lines 16-17, after “*radius tolerance level L*”, delete ***[having the step of]***.
- ▶ In claim 6, lines 24-26, after “*monitored V_E* ”, prior to “*calculating a plurality*”, delete ***[and]***.
- ▶ In claim 6, line 28, after “*predefined AMUs*”, prior to “ . ”, insert -- ***and signaling an alarm if any of the absolute values of the offset between R_{am} and R_e is larger than the predetermined radius tolerance level L*** --

Applicant's Amendment

2. The Amendment filed 04/07/2005 in response to the office action dated 12/01/2004 has been entered. The present Office Action is made with all the arguments being fully considered.

The specification has been amended.

The drawings (Fig. 2 and Fig.3) have been amended.

Claims 2, 7, 8 and 10 have been cancelled.

New claims 19 and 20 have been added.

Claims 9, 12 and 15 have been cancelled per Examiner's Amendment (see above).

Claims 1, 3-6, 11, 13, 14 and 16-20 remain pending in this office action.

Objection to the Specification Withdrawn

3. The specification having been properly amended, the previous objections are now withdrawn.

§ 112 Rejection Withdrawn

4. The claims having been properly amended, the previous rejections under 35 U.S.C. §112, second paragraph, are now withdrawn.

ALLOWANCE

5. Claims 1, 3-6, 11, 13, 14 and 16-20 are allowed.

The claims are subsequently renumbered to claims 1-13.

Reasons for Allowance

6. The following is an examiner's statement of reasons for allowance:

An ion implanter device or method comprising an analyzing magnet having a radius R_{am} ; means for, or step of, calculating an estimated radius R_e of ions being implanted by the implanter; means for, or step of, calculating an absolute value of the offset between R_e and the analyzing magnet radius R_{am} ; and means for, or step of, signaling an alarm, or stopping the operation of the ion implanter, or recalibrating the ion implanter, in the event the absolute value of the offset between R_e and the analyzing

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magnet radius R_{am} is larger than a predetermined radius of tolerance level L , i.e., in case $|R_{am} - R_e| < L$, as recited in claims 1, 6, 17, 19 and 20, is neither anticipated nor rendered obvious by any prior art.

Claims 3-5, 11, 13, 14 and 16-18 are also allowed because of its/their dependencies, either directly or indirectly, upon the allowed claims 1, 6 or 17.

7. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Relevant Prior Art

8. This prior art made of record and not relied upon is considered pertinent to applicant's disclosure: USPAT # 5,244,820 and USPAT # 5,134,301, both issued to Kamata et al., USPAT 4,899,059 issued to Freytsis et al., USPGPUB 2004/0245476 and USPAGPUB 2004/0188631, both issued to Horsky et al., disclose an ion implantation apparatus facilitated with various means and/or method to prevent undesired ion species from being implanted into the target wafer. However, none of those references recite any means for, or step of, signaling an alarm, or stopping the operation of the ion implanter, or recalibrating the ion implanter, in case the absolute value of the difference between an estimated ion radius R_e and the analyzing magnet

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radius R_{am} is larger than a predetermined radius of tolerance level L , as claimed in the present invention.


Communications

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard E Souw whose telephone number is 571 272 2482. The examiner can normally be reached on Monday thru Friday, 9:00 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571 272 2477. The central fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for regular communications as well as for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

bes
June 09, 2005


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800